



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2016-9531; Directorate Identifier 2015-CE-011-AD; Amendment 39-18839; AD 2017-07-01]**

**RIN 2120-AA64**

**Airworthiness Directives; M7 Aerospace LLC Models Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain M7 Aerospace LLC Models SA226-T, SA226-AT, SA226-T(B), SA226-TC, SA227-AC (C-26A), SA227-AT, SA227-BC (C-26A), SA227-CC, SA227-DC (C-26B), and SA227-TT airplanes. This AD was prompted by detachment of the power lever linkage to the TPE331 engine propeller pitch control. This AD requires repetitively inspecting the propeller pitch control for proper torque, with corrections as necessary until required replacement or rework of the PPC assembly to have a threaded hole in the splined end of the shouldered shaft and installation of a secondary retention device is done. We are issuing this AD to correct the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** For service information identified in this final rule, contact M7 Aerospace LLC, 10823 NE Entrance Road, San Antonio, Texas 78216; phone: (210) 824-9421; fax: (210) 804-7766; Internet: <http://www.elbitsystems-us.com>; email: MetroTech@M7Aerospace.com; or Honeywell International Inc. 111 S. 34<sup>th</sup> Street, Phoenix, Arizona 85034-2802; phone: (855) 808-6500; email: AeroTechSupport@honeywell.com; Internet: <https://aerospace.honeywell.com/en/services/maintenance-and-monitoring>. You may view this referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call 816-329-4148. It is also available on the internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9531.

#### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-9531; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is Document Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

#### **FOR FURTHER INFORMATION CONTACT ONE OF THE FOLLOWING:**

- Justin Carter, ASW-142, Aerospace Engineer, Fort Worth Airplane Certification Office (ACO), FAA, 10101 Hillwood Parkway, Fort Worth, Texas 76177-1524; telephone: (817) 222-5146; fax: (817) 222-5960; email: [justin.carter@faa.gov](mailto:justin.carter@faa.gov); or

• Kristin Bradley, ASW-143, Aerospace Engineer, Fort Worth ACO, FAA, 10101 Hillwood Parkway, Fort Worth, Texas 76177-1524; telephone: (817) 222-5485; fax: (817) 222-5960; email: kristin.bradley@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain M7 Aerospace LLC Models SA226-T, SA226-AT, SA226-T(B), SA226-TC, SA227-AC (C-26A), SA227-AT, SA227-BC (C-26A), SA227-CC, SA227-DC (C-26B), and SA227-TT airplanes. The NPRM published in the *Federal Register* on December 28, 2016 (81 FR 95528). The NPRM was prompted by reports of the airplane power lever linkage detaching from the TPE331 engine propeller pitch control (PPC) shaft. In flight operations, detachment may result in fuel flow to the engine remaining constant regardless of the power lever movement by the pilot. The orientation of the engine on certain M7 Aerospace airplanes increases the vulnerability of detachment. The PPC lever is an airplane part and its detachment from the TPE311 has been the subject of previous ADs on other airplane type designs. The NPRM proposed to require repetitive inspections of the PPC lever with corrective action as necessary until required replacement or rework of the PPC assembly to have a threaded hole in the splined end of the shouldered shaft and installation of a secondary retention feature for the airplane control linkage interface is done. We are issuing this AD to correct the unsafe condition on these products.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM or on the determination of the cost to the public.

## **Conclusion**

We reviewed the relevant data and determined that air safety and the public interest require adopting this AD as proposed. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

## **Related Service Information under 1 CFR part 51**

We reviewed M7 Aerospace LLC SA226 Series Service Bulletin 226-76-012, dated March 17, 2015; M7 Aerospace LLC SA227 Series Service Bulletin 227-76-007, dated March 17, 2015; and M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-76-004, dated March 17, 2015; that, in combination with the temporary revisions and service bulletin listed below, describes the actions that must be done for the applicable models to comply with this AD.

We also reviewed M7 Aerospace SA226 Series Maintenance Manual Temporary Revision 71-02, dated March 15, 2016; M7 Aerospace SA227 Series Maintenance Manual Temporary Revision 71-03, dated March 15, 2016; and M7 Aerospace SA227 Series Commuter Category Maintenance Manual Temporary Revision 71-02, dated March 15, 2016; that describes procedures for installing the secondary retention device on the PPC assembly and doing a visual inspection of the PPC lever for the applicable models.

We also reviewed Honeywell International Inc. Service Bulletin TPE331-72-2190, dated December 21, 2011, that describes procedures for replacing or reworking the propeller pitch control assembly, incorporating a threaded hole in the splined end of the shouldered shaft, and reassembling the propeller pitch control assembly.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section of this document.

### **Costs of Compliance**

We estimate that this AD affects 360 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

#### **Estimated costs**

| <b>Action</b>                             | <b>Labor cost</b>                      | <b>Parts cost</b> | <b>Cost per product</b> | <b>Cost on U.S. operators</b> |
|---|--|-------------------|-------------------------|-------------------------------|
| Replacement or rework of the PPC assembly | 19 work-hours X \$85 per hour = 1,615  | \$1,000           | \$2,615                 | \$941,400                     |
| Install secondary retention device        | 1 work-hour X \$85 per hour = \$85     | \$10              | \$95                    | \$34,200                      |
| Visual inspection of PPC lever            | .5 work-hour X \$85 per hour = \$42.50 | Not applicable    | \$42.50                 | \$15,300                      |

We estimate the following costs to do any necessary adjustments that would be required based on the results of the visual inspection. We have no way of determining the number of aircraft that might need these adjustments:

#### **On-condition costs**

| <b>Action</b>                       | <b>Labor cost</b>                      | <b>Parts cost</b> | <b>Cost per product</b> |
|-------------------------------------|--|-------------------|-------------------------|
| Correct attachment of the PPC lever | .5 work-hour X \$85 per hour = \$42.50 | Not applicable    | \$42.50                 |

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866,
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

## **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2017-07-01 **M7 Aerospace LLC**: Amendment 39-18839; Docket No. FAA-2016-9531; Directorate Identifier 2015-CE-011-AD.

#### **(a) Effective Date**

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to M7 Aerospace LLC SA226-T, SA226-AT, SA226-T(B), SA226-TC, SA227-AC (C-26A), SA227-AT, SA227-BC (C-26A), SA227-CC, SA227-DC (C-26B), and SA227-TT airplanes; all serial numbers, certificated in any category.

#### **(d) Subject**

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 61, Propellers/Propulsors.

**(e) Unsafe Condition**

This AD was prompted by detachment of the power lever linkage to the TPE331 engine propeller pitch control (PPC). We are issuing this AD to prevent detachment of the power lever linkage to the TPE331 engine PPC, which could result in uncommanded change to the engine power settings with consequent loss of control.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Applicable M7 Aerospace LLC Service Bulletins**

Use the applicable service bulletins as listed in paragraph (g)(1), (2), or (3) of this AD as reference to complete the actions in paragraph (i)(1) or (2) of this AD:

(1) M7 Aerospace LLC SA226 Series Service Bulletin 226-76-012, dated March 17, 2015;

(2) M7 Aerospace LLC SA227 Series Service Bulletin 227-76-007, dated March 17, 2015; or

(3) M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-76-004, dated March 17, 2015.

**(h) PPC Lever Installation**

(1) Within 100 hours time-in-service (TIS) after [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD) and repetitively thereafter at intervals not to exceed 100 hours TIS, visually inspect the PPC lever to assure the attachment is properly installed following the applicable service information listed in paragraph (h)(1)(i), (ii), or (iii) of this AD, as applicable.

(i) For Models SA226 Series: M7 Aerospace SA226 Series Maintenance Manual Temporary Revision 71-02, dated March 15, 2016.

(ii) For Models SA227 Series: M7 Aerospace SA227 Series Maintenance Manual



Temporary Revision 71-03, dated March 15, 2016.

(iii) For Models SA227 Series Commuter Category: M7 Aerospace SA227 Series Commuter Category Maintenance Manual Temporary Revision 71-02, dated March 15, 2016.

(2) The rework/replacement required by paragraph (i) of the AD and the installation of the secondary retention device required in paragraph (j) of this AD terminate the repetitive visual inspections of the PPC lever attachment required by paragraph (h)(1) of this AD.

**(i) Replace or Rework the Propeller Pitch Assembly**

Within the next 600 hours TIS after [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD) or within the next 12 months after [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD), whichever occurs first, do the actions in either paragraph (i)(1) or (2) of this AD following the Accomplishment Instructions in Honeywell International Inc. Service Bulletin TPE331-72-2190, dated December 21, 2011, as referenced in the applicable service information listed in paragraph (g)(1), (2), or (3) this AD.

(1) Replace the PPC. Remove the PPC assembly and replace with the applicable new design PPC using the part numbers listed in table 1 to paragraph (i)(1) of this AD.

**Table 1 to Paragraph (i)(1) of this AD – *Part Number PPC Assemblies***

| Part Number PPC<br>Assembly to Remove | Part Number PPC<br>Assembly to Install |
|---------------------------------------|--|
| 869130-11                             | 70000295-11                            |
| 869130-12                             | 70000295-12                            |
| 869130-13                             | 70000295-13                            |
| 869130-14                             | 70000295-14                            |
| 869130-16                             | 70000295-16                            |
| 869130-17                             | 70000295-17                            |
| 869130-18                             | 70000295-18                            |

|           |             |
|-----------|-------------|
| 869130-19 | 70000295-19 |
| 869130-30 | 70000295-30 |
| 895481-1  | 70000298-1  |
| 895481-2  | 70000298-2  |
| 895481-4  | 70000298-4  |
| 895481-5  | 70000298-5  |
| 895481-6  | 70000298-6  |
| 895481-7  | 70000298-7  |
| 895481-17 | 70000298-17 |
| 895481-18 | 70000298-18 |
| 895481-19 | 70000298-19 |
| 895481-20 | 70000298-20 |
| 895481-22 | 70000298-22 |

(2) Rework the PPC assembly. Inspect the splined end of the shouldered shaft for the presence and good condition of a threaded hole, repairing or replacing the cam assembly, and reworking the PPC assembly as necessary.

**(j) Secondary Retention Feature**

(1) Before further flight after the replacement or rework of the PPC assembly required in paragraph (i)(1) or (2) of this AD, install the secondary retention feature on the PPC assembly following the applicable service information listed in paragraph (j)(1)(i), (ii), or (iii) of this AD.

(i) For Models SA226 Series: M7 Aerospace SA226 Series Maintenance Manual Temporary Revision 71-02, dated March 15, 2016.

(ii) For Models SA227 Series: M7 Aerospace SA227 Series Maintenance Manual Temporary Revision 71-03, dated March 15, 2016.

(iii) For Models SA227 Series Commuter Category: M7 Aerospace SA227 Series Commuter Category Maintenance Manual Temporary Revision 71-02, dated March 15, 2016.

(2) The rework/replacement required by paragraph (i) of this AD and the installation of the secondary retention device required by paragraph (j) of this AD

terminate the requirement for the repetitive inspections of the PPC lever torque required in paragraph (h) of this AD.

**(k) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Fort Worth Airplane Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, mail it to the attention of one of the people identified in paragraph (l), Related Information, of this AD or email the request to 9-asw-FWACO@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(l) Related Information**

For more information about this AD, contact one of the following people:

(1) Justin Carter, ASW-142, Aerospace Engineer, Fort Worth Airplane Certification Office (ACO), FAA, 10101 Hillwood Parkway, Fort Worth, Texas 76177-1524; telephone: (817) 222-5146; fax: (817) 222-5960; email: justin.carter@faa.gov; or

(2) Kristin Bradley, ASW-143, Aerospace Engineer, Fort Worth ACO, FAA, 10101 Hillwood Parkway, Fort Worth, Texas 76177-1524; telephone: (817) 222-5485; fax: (817) 222-5960; email: kristin.bradley@faa.gov.

**(m) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) M7 Aerospace LLC SA226 Series Service Bulletin 226-76-012, dated March 17, 2015.

(ii) M7 Aerospace LLC SA227 Series Service Bulletin 227-76-007, dated March 17, 2015.

(iii) M7 Aerospace LLC SA227 Series Commuter Category Service Bulletin CC7-76-004, dated March 17, 2015.

(iv) M7 Aerospace SA226 Series Maintenance Manual Temporary Revision 71-02, dated March 15, 2016.

(v) M7 Aerospace SA227 Series Maintenance Manual Temporary Revision 71-03, dated March 15, 2016.

(vi) M7 Aerospace SA227 Series Commuter Category Maintenance Manual Temporary Revision 71-02, dated March 15, 2016.

(vii) Honeywell International Inc. Service Bulletin TPE331-72-2190, dated December 21, 2011.

(3) For service information identified in this AD, contact M7 Aerospace LLC, 10823 NE Entrance Road, San Antonio, Texas 78216; phone: (210) 824-9421; fax: (210) 804-7766; Internet: <http://www.elbitsystems-us.com>; email: [MetroTech@M7Aerospace.com](mailto:MetroTech@M7Aerospace.com); or Honeywell International Inc. 111 S. 34<sup>th</sup> Street, Phoenix, Arizona 85034-2802; phone: (855) 808-6500; email: [AeroTechSupport@honeywell.com](mailto:AeroTechSupport@honeywell.com); Internet: <https://aerospace.honeywell.com/en/services/maintenance-and-monitoring>.

(4) You may view this service information at FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call 816-329-4148.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:  
<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Kansas City, Missouri on March 17, 2017.

William Schinstock,  
Acting Manager, Small Airplane Directorate,  
Aircraft Certification Service.

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